In the Claims

CLAIMS

1. (Previously presented) A projection objective in microlithography for producing semiconductor components, the projection objective is assembled from a number of individual housing structures, optical elements being arranged in each housing structure, wherein at least one first housing structure having portions comprising a plurality of seats on which one or more further housing structures are adjusted and are connected to said first housing structure;

wherein at least one first of the plurality of the seats is provided for the purpose of adjusting and mounting of at least one optical element or optical subassembly in said first housing structure, and wherein the at least one first seat is angled relative to at least one other seat, and the angle being greater than 0°;

wherein said plurality of the seats are provided on external surfaces of said first housing structure;

wherein provided as said external surfaces is the at least one first seat that runs at an angle of (<) less than 30°, in particular at least approximately parallel, to a first optical axis; and

wherein provided as said further external surfaces are two mutually parallel seats which lie at an angle of (<) less than 30°, in particular at least approximately parallel, to a further optical axis.

Claims 2-3 (Canceled).

4. (Original) The objective according to claim 1, wherein a number of optical axes being formed by said housing structures.

Claims 5-7 (Canceled).

8. (Previously presented) The objective according to claim 1, wherein said at least one first seat is arranged at least approximately perpendicular, at an angle of (>) greater than 60° to the mutually parallel seats.

9. (Previously presented) The objective according to claim 1, wherein a fourth seat is provided at an angle to said at least one first seat and to the two mutually parallel seats.

10. (Previously presented) The objective according to claim 9, wherein said fourth seat is arranged at an angle of 45° ± 15 to the at least one first seat and to said two mutually parallel seats, and wherein arranged on said fourth seat is a deflecting mirror for producing a third optical axis for a second housing structure.

11. (Previously presented) The objective according to claim 10, wherein said second housing structure is provided with at least one seat on which one or more further optical elements arranged in substructures, or subassemblies of optical elements are adjusted and connected to said second housing structure.

12. (Original) The objective according to claim 10, wherein said second housing structure is provided with at least one further seat, wherein said at least one further seat connects said first housing structure with said second housing structure.

13. (Original) The objective according to claim 12, wherein the junction between said first housing structure and said second housing structure is formed by the seats of said first housing structure and of said second housing structure.

14. (Original) The objective according to claim 12, wherein said second housing structure is provided with at least two further seats, one seat running perpendicular to the seat, and the further seat running perpendicular to the further seat and to the seat via which said second housing structure is connected to said first housing structure.

15. (Original) A projection exposure machine for producing semiconductor components, comprising an objective according to claim 1.

16. (Original) The projection exposure machine for producing semiconductor components according to claim 15, for using light with a wavelength of less than 360 nm.

17. (Previously presented) The objective according to claim 1, wherein the angle of the at least one first seat relative to the at least one other seat comprises less than 30°.

18. (Previously presented) The objective according to claim 1, wherein the angle of the at least one first seat relative to the at least one other seat comprises greater than 60°.

19. (Previously presented) The objective according to claim 1, wherein the angle of the at least one first seat relative to the at least one other seat comprises a range of about 30° to about 60°.

20. (Previously presented) A projection objective in microlithography for producing semiconductor components, the projection objective is assembled from a number of individual housing structures, optical elements being arranged in each housing structure, wherein at least one first housing structure is provided with seats on which one or more further housing structures are adjusted and are connected to said first housing structure;

wherein a number of optical axes being formed by said housing structures;

wherein provided is at least one first seat that runs at an angle of (<) less than 30°, in particular at least approximately parallel, to a first optical axis;

wherein provided are two mutually parallel seats which lie at an angle of (<) less than 30°, in particular at least approximately parallel, to a further optical axis; and

further comprising a fourth seat arranged at an angle of 45° ± 15 to the first seat and to said two mutually parallel seats, and wherein arranged on said fourth seat is a deflecting mirror for producing a third optical axis for a second housing structure.

21. (Previously presented) The objective according to claim 20, wherein said second housing structure is provided with at least one further seat, wherein said at least one further seat connects said first housing structure with said second housing structure.

22. (Previously presented) The objective according to claim 21, wherein the junction between said first housing structure and said second housing structure is formed by the seats of said first housing structure and of said second housing structure.

23. (Previously presented) The objective according to claim 21, wherein said second housing structure is provided with at least two further seats, one seat running perpendicular to the seat, and the further seat running perpendicular to the further seat and to the seat via which said second housing structure is connected to said first housing structure.

24. (Previously presented) The objective according to claim 20, wherein said seats are provided on external surfaces of said first housing structure.

25. (Previously presented) A projection objective in microlithography for producing semiconductor components, the projection objective is assembled from a number of individual housing structures, optical elements being arranged in each housing structure, wherein at least one first housing structure is provided with seats on which one or more further housing structures are adjusted and are connected to said first housing structure;

wherein said seats are provided on external surfaces of said first housing structure;

wherein provided as said external surfaces is at least one first seat that runs at an angle of (<) less than 30°, in particular at least approximately parallel, to a first optical axis;

wherein provided as said further external surfaces are two mutually parallel seats which lie at an angle of (<) less than 30°, in particular at least approximately parallel, to a further optical axis;

wherein a fourth seat is provided at an angle to said first seat and to the two mutually parallel seats; and

wherein said fourth seat is arranged at an angle of 45° $\pm$ 15 to the first seat and to said two mutually parallel seats, and wherein arranged on said fourth seat is a deflecting mirror for producing a third optical axis for a second housing structure.

26. (Previously presented) A projection objective in microlithography for producing semiconductor components, the projection objective comprising:

a first housing comprising at least one first optical element having a first optical axis; and

a second housing comprising a structural configuration that is different from a structural configuration of the first housing, the second housing comprising at least one second optical element having a second optical axis, and the second housing comprising a seat configured for removably mounting the first housing in an adjustment relationship.

27. (Previously presented) The projection objective of claim 26 wherein the first optical axis is collinear with the second optical axis.

28. (Previously presented) The projection objective of claim 26 wherein the first optical axis extends perpendicularly to the second optical axis.

29. (Previously presented) The projection objective of claim 26 wherein the first optical axis extends parallel with the second optical axis.

30. (Previously presented) The projection objective of claim 26 wherein at least one of the first and the second housings comprises another seat configured for removably mounting of at least one of an optical element and an optical subassembly in an adjustment relationship.

31. (Previously presented) The projection objective of claim 26 wherein at least one of the first and second housings comprises a plurality of seats configured for removably mounting of at least one of an optical element, an optical subassembly and another housing in an adjustment relationship.

32. (Previously presented) The projection objective of claim 31 wherein the plurality of the seats comprises at least two seats being substantially planar and in parallel relation to one another.

33. (Previously presented) The projection objective of claim 31 wherein the plurality of the seats comprises at least two seats being substantially planar and in perpendicular relation to one another.

34. (Previously presented) The projection objective of claim 26 wherein the first housing comprises a seat configured for removably mounting at least one of an optical element, an optical subassembly and a housing in an adjustment relationship, the seat of the first housing in parallel relation to the seat of the second housing.

35. (Previously presented) The projection objective of claim 26 wherein the first housing comprises a seat configured for removably mounting at least one of an optical element, an optical subassembly and a housing in an adjustment relationship, the seat of the first housing in perpendicular relation to the seat of the second housing.

36. (Previously presented) The projection objective of claim 26 wherein the first and the second housing comprise a first and a second barrel structure, respectively, and wherein the first and the second optical elements are arranged to perform at least one of deflection, divergence and transmittance of electromagnetic radiation through the first and the second barrel structures.

37. (Previously presented) The projection objective of claim 26 further comprising a light source, the light source comprising a laser.

38. (Previously presented) An extreme ultraviolet (EUV) system comprising the projection objective of claim 26.

39. (Previously presented) A reticle masking (REMA) system comprising the projection objective of claim 26.

40. (New) The projection objective of claim 26 wherein the first housing directly contacts the second housing.

41. (New) The projection objective of claim 26 wherein the first housing is physically against the second housing.

42. (New) The projection objective of claim 26 wherein the seat comprises a portion of an exterior surface of the second housing, and wherein the first housing is joined to the seat of the second housing.

43. (New) The projection objective of claim 26 wherein the seat comprises a portion of an exterior surface of the second housing, and wherein the first housing comprises an exterior surface, and wherein a portion of the exterior surface of the first housing is mated with the seat of the second housing.

44. (New) The projection objective of claim 26 wherein the second housing comprises a length dimension greater than a height dimension, and wherein the seat is oriented to extend along the length dimension.

45. (New) The projection objective of claim 26 wherein the second housing comprises a length dimension greater than a height dimension, and wherein the seat is oriented to extend perpendicular to the second optical axis.

46. (New) The projection objective of claim 26 wherein the seat comprises a first planar surface, wherein the second housing comprises another seat, the another seat comprising a second planar surface perpendicular to the first planar surface.

47. (New) The projection objective of claim 26 wherein the seat comprises a first seat, the first seat comprising a planar surface, and wherein the second housing comprises a second seat and a third seat, the second and third seats comprising respective different planar surfaces, and wherein the third seat is perpendicular to the first and second seats.